



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,414	01/26/2005	Nicolas Eches	CELA:132	5549
27890	7590	02/11/2008	EXAMINER	
STEPTOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			CLEMENT, MICHELLE RENEE	
ART UNIT	PAPER NUMBER			
			3641	
MAIL DATE		DELIVERY MODE		
02/11/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,414	<b>Applicant(s)</b> ECHES ET AL.
	<b>Examiner</b> Michelle (Shelley) Clement	<b>Art Unit</b> 3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 October 2007.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 and 17 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-10, 16, 18, 19 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1668)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10, 16 and 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotz et al. (US Patent # 4,833,995) in view of Heitmann (US Patent # (US Patent # 6,712,005) and Leblond et al. (EP 11103780). Gotz et al. discloses a guide band (i.e. sealing band) for a projectile, the band comprising, a front sub-band comprising at least two axially longitudinal sections, the sub-band having a shape to correspond and tightly fit with a matching complementary profile of an annular groove of such projectile. Each sub-band section comprises at least one indentation for connecting to a corresponding indentation of a neighboring section for forming a sealing deflection plate for propellant gases. The two sections of the sub-band are arc-shaped and the deflecting plate is circular and comprising a flexible sealing material. The projectile comprising a sub-calibre core held by a full-calibre sabot comprising at least two segments, the sabot comprising a pusher plate comprising at least one circumferential groove for receiving the sub-band. Although Gotz et al. does not expressly disclose the pusher plate located axially forward of a transversal plane passing through the center of gravity of the projectile. It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the pusher plate at the claimed location, since it has been held that were the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable

ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Gotz et al. further discloses ammunition comprising a propellant casing and such a projectile. Although Gotz et al. does not expressly disclose that shape for the complementary profile of such a profile comprising a conical section, which in an axial cross-section includes a wedge-shaped profile, Leblond et al. does. Leblond et al. teaches a projectile and sealing band wherein the sealing band has a complementary profile comprising at least one conical section, which in an axial cross-section includes a wedge shaped profile, for tightly fitting with a matching complementary profile of an annular groove of the projectile. Gotz et al. and Leblond et al. are analogous art because they are from the same field of endeavor: projectiles and sealing bands. It would have been obvious to one having ordinary skill in the art to provide the conical section, which in an axial cross-section includes a wedge shaped profile as taught by Leblond et al. with the sealing band as disclosed by Gotz et al. The suggestion/motivation for doing so would have been to obtain a sectional sealing band that would have fit onto a projectile of the shape taught by Leblond et al. Although neither Gotz et al. nor Leblond et al. disclose a cylindrical skirt removably attached to and fully covering the circumferential exterior surface of the sub-band, Heitmann does. Heitmann teaches a sealing ring (i.e. cylindrical skirt) (references 17, 18, 19, 20 and 21) that is removably attached to and fully covering the circumferential exterior surface of the guide band (i.e. sealing band). The skirt has on its internal surface means for fastening to the sub-band. The skirt has an internal circular collar for the sub-band. The skirt constituting a layer of sealing material at the rear of the sub-band relative to a front end of a projectile. A rear section of the skirt has a diameter greater than a caliber of a barrel for firing such a projectile (Figure 1). A front section (reference 6) has a diameter smaller than a caliber of a barrel for firing such

projectile. The skirt is attached to a fastening ring fixed to a ammunition casing. All of the component parts are known in the references. The only difference is the combination of the "old elements" into a single device, one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. The references disclose the claimed invention except for the skirt specifically having a length between 50% and 80% of the caliber. Therefor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the skirt within the specified range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and applicant hasn't disclosed that the specified range solves any stated problem or is for any particular purpose. *In re Aller*, 105 USPQ 233.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle (Shelley) Clement whose telephone number is 571.272.6884. The examiner can normally be reached on Monday thru Thursday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571.272.6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michelle (Shelley) Clement/  
Primary Examiner, Art Unit 3641